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Social Capital and Global Health Indicators: What Trusting Relationships Tell Us About the Global Burden of Disease

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INTRODUCTION

❖ **Background**
- ➢ The global burden of disease has become increasingly complicated
  - ▪ High rates of suicide, drug and alcohol related death and disease, and organ system diseases have caused a *decrease in life expectancies* (Woolf and Schoomaker, 2019).
  - ▪ Medical technology and spending have not been able mitigate the surge of disease states
  - ▪ Causes of these illnesses are not well understood
- ➢ The influence of social dynamics on health are become more understood
  - ▪ Social capital has been shown to beneficially impact physical health at individual and community levels (Agampodi et al., 2015)
  - ▪ Though social capital has been identified as a key determinant to public health, few cross-national studies have explored this correlation (Rodgers et al., 2019)
  - ▪ The World Health Organization has called for more research in this area (WHO, 2013)
  - ▪ Additional gaps in the literature include:
    - Self-reported, single-item measurements for health and social capital
    - Lack of evidence from underdeveloped nations and cross-regionally
    - Minimal review of relationship to disease states

❖ **Research Question**
- ➢ *To what extent does social capital relate to global health indicators?*

❖ **Purpose**
- ➢ Explore the contextual complexity of global health through increased understanding of its relationship to cross-national social capital

METHODS

❖ **Data Sources:** Secondary data analysis of cross-sectional data
- ➢ World Values Survey (*WVS*), wave 6: 2010-2014
- ➢ World Bank Databank (*WBD*): 2010

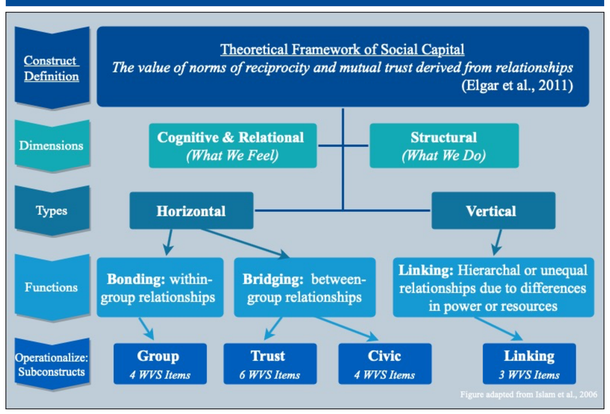
❖ **Sample**
- ➢ 58 Countries: Representative of all regions, economic, and political models
  - ▪ Aggregated individual WVS data (n=89,566) to country level
    - Referenced to national level rather than individual, self-reported health indicators

❖ **Independent Variables** – Elgar et al. Social Capital Subconstructs (2011) *WVS*
- ➢ Social Capital Operationalizes by Subconstructs
  - ▪ Trust
  - ▪ Group
  - ▪ Civic
  - ▪ Linking
- ➢ Covariates to control for economic and medical resource variances *WBD*
  - ▪ GNI (per capital as constant 2010 US$)
  - ▪ Health Expenditure (% of GDP)

❖ **Dependent Variables** - Global Health Indicators *WBD*
- ▪ Life expectancy at birth, total (years)
- ➢ Count Data
  - ▪ Suicide mortality rate (per 1,000,000 population)
  - ▪ Mortality rate attributed to unintentional poisoning (per 100,000 population)
  - ▪ Infant mortality rate (per 1,000 live births)
- ➢ Percentage Data (% of total)
  - ▪ Mortality from cardiovascular disease, cancer, diabetes, or chronic respiratory disease (lifestyle diseases)
  - ▪ Cause of death by communicable disease
  - ▪ Cause of death by non-communicable diseases
  - ▪ Overweight prevalence
  - ▪ Diabetes prevalence
  - ▪ Smoking prevalence

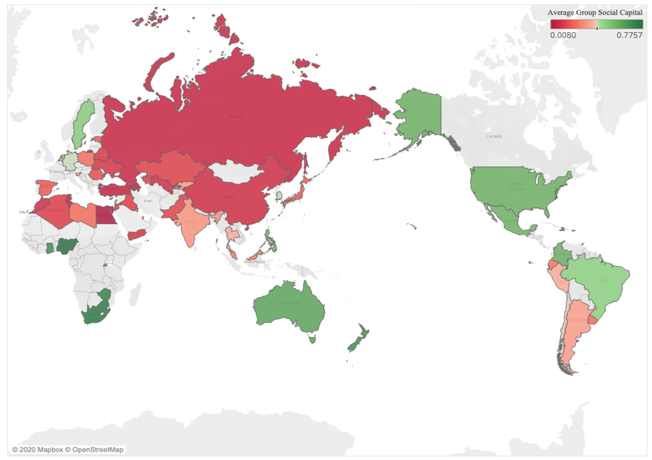
❖ **Statistical Methods**
- ➢ GLM Regression
- ➢ Negative Binomial Regression – Count Data
- ➢ Beta Regression – Percentage Data

OPERATIONAL DEFINITION

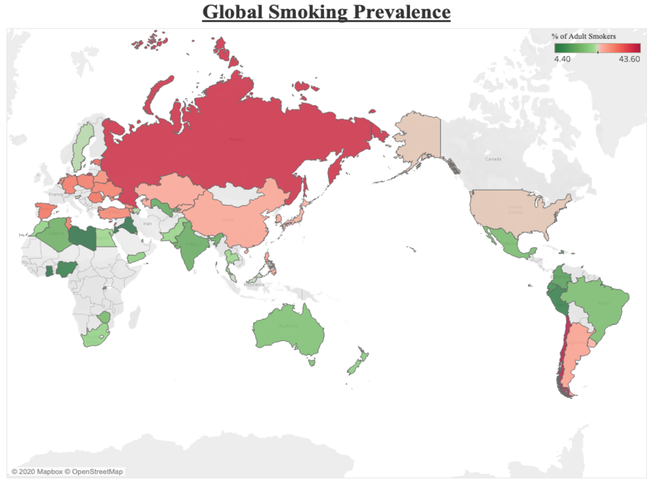


EXAMPLE COMPARISON MAPS

Group Social Capital



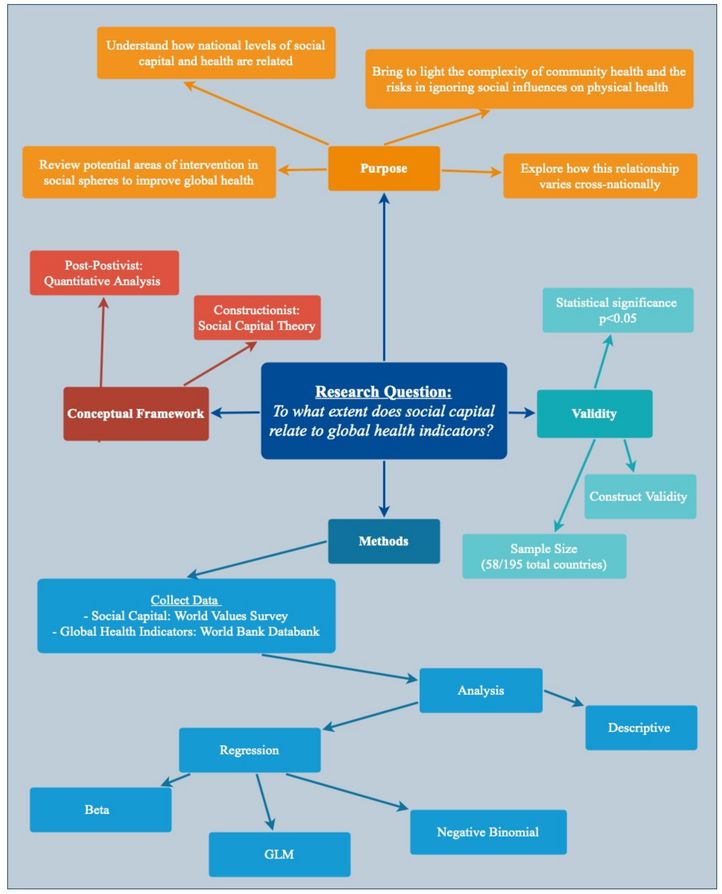
Global Smoking Prevalence



Key examples are Russia with low average group social capital and high smoking prevalence and Australia with high average group social capital and low smoking prevalence.

The comparison of the maps above exemplify the relationship seen in the regression analysis between group social capital and global smoking prevalence. Countries in red on the Group Social Capital Map (left) have lower levels of group social capital, while green countries have higher levels of group social capital. The Smoking Prevalence Map (right), red countries have higher smoking prevalence, while green countries have lower smoking prevalence. Countries with consistent colors between maps have a negative correlation: the higher the average group social capital, the lower the smoking prevalence.

CONCEPT MAP



FLOWCHART

RESULTS

- ❖ Regression models revealed that global health indicators are related to social capital subconstructs in different ways, as seen in the Results Table.
- ❖ For *prevalence of* overweight, diabetes, and smoking along with non-communicable disease mortality, group social capital correlated with *improved* health.
  - ➢ Non-communicable disease mortality, however, also showed an increase with civic social capital.
- ❖ For all other indicators, social capital was associated with *declining* health indicators.

Global Health Indicator (+count data; %percentage data)	Social Capital Subconstruct	Estimate in Health increase/decrease	p-value
Overweight Prevalence %	Group	-0.36	0.002
Diabetes Prevalence %	Group	-0.64	0.044
Smoking Prevalence %	Group	-0.30	<0.001
Non-Communicable Disease Mortality %	Group	-0.10	0.003
	Civic	1.36	<0.001
Lifestyle Disease Mortality %	Trust	1.59	0.002
Poisoning Mortality +	Trust	6.50	0.015
Life Expectancy	Trust	-4.91	0.019
	Group	-0.13	<0.001
Infant Mortality +	Group	2.81	0.007
Communicable Disease Mortality %	Group	21.00	<0.001
	Linking	1.74	0.034
Suicide Mortality+	None	--	--

DISCUSSION

❖ **Implications of results**
- ➢ Social capital relates to global health indicators both positively and negatively
- ➢ Group social capital may have the most meaningful impact on health
  - ▪ Interventions meant to address this implication should target reducing prevalence of non-communicable diseases and harmful lifestyles through increased engagement in formal social groups.

❖ **Strengths of Study**
- ➢ Diverse sampling of countries around the world
- ➢ Extensive components of social capital measurement

❖ **Limitations of Study**
- ➢ Cross-sectional data does not allow for causation to be inferred
- ➢ Ecological fallacy: inherent problem with social capital and collective health outcomes

❖ **Next Steps**
- ➢ Acquire longitudinal data to explore the potential causation relationship
- ➢ Direct research to specific pathways of health and social capital subconstructs

❖ **Conclusions**
- ➢ Global health outcomes are influenced by a myriad of factors including social capital.
- ➢ Disease prevention, measurement, monitoring, and research must begin to see our health and social world as inextricably linked.
- ➢ Without a more holistic evaluation of well-being, we are likely to continue to see declines in the most complex of health outcomes.

ADDITIONAL INFORMATION

- ▪ Thank you for your curiosity in this research!
- ▪ Follow this website QR code to find more information on this topic including:
  - ▪ Abstract
  - ▪ Formal written sections
  - ▪ References
  - ▪ Additional visuals
  - ▪ Country list
  - ▪ And reflections on the research process